AMARILLO
921 North Bivins
Amarillo, Texas 79107
Phone 806.467.0607
Fax 806.467.0622

ARTESIA
408 West Texas Ave.
Artesia, New Mexico 88210
Phone 575.746.8768
Fax 575.746.8905

AUSTIN
911 West Anderson Lane
Suite 202
Austin, Texas 78757
Phone 512.989.3428
Fax 512.989.3487

HOBBS
318 East Taylor Street
Hobbs, New Mexico 88240
Phone 575.393.4261
Fax 575.393.4658

MIDLAND
2901 State Hwy 349
Midland, Texas 79706
Phone 432.522.2133
Fax 432.522.2180

SAN ANTONIO
11 Commercial Place
Schertz, Texas 78154
Phone 210.265.8025
Fax 210.568.2191

TULSA
525 South Main Street
Suite 535
Tulsa, Oklahoma 74103
Phone 918.742.0871
Fax 918.382.0232

ENVIRONMENTAL CONSULTING
ENGINEERING
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SPILL MANAGEMENT
GENERAL CONTRACTING

Toll Free: 866.742.0742
www.talonlpe.com

June 21, 2011

Mr. Mike Bratcher
NMOCD District 2
1301 West Grand Avenue
Artesia, NM 88210

Subject: **Remediation and Closure Report**
Quantum Resources Management, LLC, New Mexico
State 647 AC 711 Water Flood Station Release
30-015-02056 -- **2RP-501**

Dear Mr. Bratcher,

Quantum Resources Management, LLC has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced State 647 AC 711 Water Flood Station release. The incident description, soil assessment, remediation activities and closure request are submitted herein.

Incident Date

December 6, 2010

Background Information

The State 647 AC 711 Water Flood Station is located approximately nineteen (19) miles southeast of Artesia, New Mexico. The legal location for the site is Unit Letter M, Section 27, Township 18 South and Range 28 East in Eddy County, New Mexico. More Specifically the latitude and longitude for the release are 32.71420 North and -104.17128 West.

This site lies on undulating plains and low hills consisting of wind worked sandy deposits. Drainage courses in this area are normally dry. The local surface and shallow geology includes silty soils under lain by sand stone, limestone and caliche layers. The New Mexico State Engineer's web site indicates the nearest ground water data to be in S35-T18S-R28E. The ground water in Section 35 is reported to be at an average depth of 65' below ground surface (bgs).

The ranking for this site is 10 based on the as following:

Depth to ground water	50'-100'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Incident Description

On December 6, 2010 the flow line located at the State 647 AC 711 Water Flood Station ruptured. The flow line was subsequently taken out of service, repaired and placed back into service. Approximately twenty-five to thirty (25-30) barrels of produced water were released. A vacuum truck was brought to the location and twenty (20) barrels of produced water were recovered. The impacted area is located on the flow line right of way approximately fifty-four feet (54') south of the water flood station. The impacted area is estimated to be one hundred and eleven feet (111') long by one hundred fifty-five feet (155') wide. The impacted area was excavated to a depth of 1-foot (1') deep and the excavated soil was placed on a liner.

Actions Taken

On January 11, 2011 Talon personnel mobilized to the site to begin soil sampling and site assessment activities. Grab soil samples were collected utilizing a split spoon auger drill rig. Soil samples were collected from one foot (1') below ground surface (bgs) to a depth of fourteen feet (14') bgs. A hard rock barrier was encountered at two feet (2') bgs and no sample return was available at that depth.

The grab soil samples were collected by Talon personnel wearing clean nitrile gloves. The samples were placed in laboratory provided glassware, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis chlorides using a Method SM4500CL-B.

Analytical Results

Analytical results received from Cardinal Laboratories on January 25, 2011 are summarized below.

Sample, Depth	Chlorides (mg/kg)
S-1, 1-foot	8800 ppm
S-1, 4'	224
S-1, 6'	128
S-1, 8'	144
S-1, 14'	96

Analytical results received from Cardinal Laboratories on April 14, 2011, which are composite samples after excavation, are summarized below.

Sample, Depth	Chlorides	BTEX	TPH
S-1, Bottom Excavation	800 mg/kg	ND* mg/kg	ND mg/kg
S-2, S. Side Wall	288	ND	ND
S-3, N. Side Wall	1770**	ND	ND
S-4, W. Side Wall	432	ND	ND
S-5, E. Side Wall	2960***	ND	55.8

*Not Detected within lab method detection limits
**Historical impacted area
***Flowline/utility line location

For this site's ranking, New Mexico Oil Conservation District action level criteria for BTEX is 50 mg/kg, Benzene is 10 mg/kg and TPH is 1,000 mg/kg. The chloride remediation standard is considered to be 1,000 mg/kg.

Remedial Actions

On March 23, 2011 Talon personnel mobilized to the site to begin excavation of the impacted soil located south of the Water Flood Station. A total of 942.24 cubic yards of impacted soil was excavated to the depth of 4' and transported to Lea Land, LLC, an NMOCD approved solid waste disposal facility for disposal. The excavated area was left open until an approval for backfilling of the site was obtained from NMOCD. On April 19, 2011 NMOCD Environmental Specialist Mike Bratcher reviewed the analytical results from the open excavation. Mr. Bratcher granted approval to backfill the excavated area. He will note that at time of closure the contaminants were not fully defined to the North due to historical impacts in the area.

On April 26, 2011 Talon personnel returned to the site to begin backfilling the excavated area. The excavated area was backfilled back to grade with 917.61 cubic yards of new material transported from a local borrow pit. The backfill material was contoured to match the surrounding terrain and the area will be seeded with an approved seed mixture.

Conclusions and Recommendations

- Ground water in the project vicinity is 65-feet below land surface per the New Mexico State Engineer Database.

- The impacted area has been excavated to a depth of 4-feet bgs.

- Based upon the results of the field and laboratory data obtained for this investigation, the vertical impacts for the chloride release have been defined above background levels to less than 4' bgs, as shown by the lab data on January 25, 2011, collected with the drill rig.

- Based on the depth to groundwater and the remaining chloride levels in the soil at this location, it is unlikely that the chloride impacts identified from this release will pose a threat to groundwater.

- Therefore, on behalf of Quantum Resources Management, LLC, we respectfully request that no further actions be required and that closure with respect to this release be granted.

Should you have any questions or if further information is required, please do not hesitate to contact us at 575.746.8768.

Respectfully submitted,

TALON/LPE

Mike Stubblefield
Project Manager

David J. Adkins
District Manager

APPENDIX I

GROUNDWATER DATA

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 03348 APPRO		DOM	LE	4	3	4	35	18S	28E	580236	3618135*	105	65	40
RA 09588		DOM	ED		1	2	33	18S	28E	576976	3619384*	300		

Average Depth to Water: **65 feet**

Minimum Depth: **65 feet**

Maximum Depth: **65 feet**

Record Count: 2

PLSS Search:

Township: 18S **Range:** 28E

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 09588		DOM	ED		1	2	33	18S	28E	576976	3619384*	757	300		
L 03348 APPRO		DOM	LE	4	3	4	35	18S	28E	580236	3618135*	3012	105	65	40
CP 00361		PRO	ED		1	3	09	19S	28E	576195	3615347*	4595	365	265	100
CP 00361 EXPL		EXP	ED	3	1	3	09	19S	28E	576094	3615246*	4724	365	265	100

Average Depth to Water: **198 feet**

Minimum Depth: **65 feet**

Maximum Depth: **265 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 577663 **Northing (Y):** 3619702 **Radius:** 5000

***UTM location was derived from PLSS - see Help**

APPENDIX II

LABORATORY REPORTS

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 25, 2011

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STATE 647 AC 711 WATERFLOOD STATION

Enclosed are the results of analyses for samples received by the laboratory on 01/21/11 11:05.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene
Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TALON LPE
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:	01/21/2011	Sampling Date:	01/11/2011
Reported:	01/25/2011	Sampling Type:	Soil
Project Name:	STATE 647 AC 711 WATERFLOOD STATI	Sampling Condition:	Cool & Intact
Project Number:	701395.002.01	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S.1 1' (H100154-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: LR**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8800**	16.0	01/24/2011	ND	432	108	400	0.00	

Sample ID: S.1 4' (H100154-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: LR**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	01/24/2011	ND	432	108	400	0.00	

Sample ID: S.1 6' (H100154-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: LR**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	01/24/2011	ND	432	108	400	0.00	

Sample ID: S.1 8' (H100154-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: LR**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	01/24/2011	ND	432	108	400	0.00	

Sample ID: S.1 14' (H100154-05)

Chloride, SM4500Cl-B mg/kg **Analyzed By: LR**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	01/24/2011	ND	432	108	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Talon / LPE	P.O. #:	
Project Manager:	Mike Stubblefield	Company:	Talon / LPE
Address:	408 W. Texas Ave.	Attn:	
City:	Artesia State: NM. Zip: 88210	Address:	
Phone #:	575-441-7254 Fax #: 575-246-8905	City:	
Project #:	701395.002.01 Project Owner: Quantum Res.	State:	Zip:
Project Name:	State 647 AC 211 Waterflood Station	Phone #:	
Project Location:		Fax #:	
Sampler Name:	Mike Stubblefield		

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	Total Chlorides
H11051-1	S-1 1'	G				✓							1/14/2011	10:20A	✓
2	S-1 4'	G				✓							1/11/2011	10:39A	✓
3	S-1 6'	G				✓							1/11/2011	10:36A	✓
4	S-1 8'	G				✓							1/11/2011	10:42A	✓
5	S-1 14'	G				✓							1/11/2011	12:11P	✓

Relinquished By:	Date: 1/12/2011	Received By:	Phone Result:	☐ Yes	☑ No
Mike Stubblefield	Time: 4:00 pm		Fax Result:	☐ Yes	☐ No
Relinquished By:	Date: 1-12-11	Received By: Jodi Henson	REMARKS:		
	Time: 11:05				

Delivered By: (Circle One)
Sampler - UPS - Bus - (Other) 6°C

Sample Condition: Cool / Intact — ☐ Yes ☐ No / ☑ Yes ☐ No

CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 14, 2011

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: STATE 647 AC 711 WATERFLOOD STATION RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 04/11/11 8:53.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TALON LPE
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:	04/11/2011	Sampling Date:	04/06/2011
Reported:	04/14/2011	Sampling Type:	Soil
Project Name:	STATE 647 AC 711 WATERFLOOD STATI	Sampling Condition:	Cool & Intact
Project Number:	701407.007.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 27 - T18S - R28E		

Sample ID: S - 1 BOTTOM EXC AREA (H100719-01)

BTEX 8260B mg/kg **Analyzed By: CMS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2011	ND	1.82	91.1	2.00	1.20	
Toluene*	<0.050	0.050	04/12/2011	ND	1.90	95.1	2.00	1.70	
Ethylbenzene*	<0.050	0.050	04/12/2011	ND	1.85	92.3	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/12/2011	ND	5.72	95.4	6.00	1.96	

Surrogate: Dibromofluoromethane	*75.2 %*	*80-120*
Surrogate: Toluene-d8	*95.7 %*	*80-120*
Surrogate: 4-Bromofluorobenzene	*78.9 %*	*80-120*

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**880**	16.0	04/11/2011	ND	416	104	400	0.00	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/12/2011	ND	223	111	200	3.99	
DRO >C10-C28	<10.0	10.0	04/12/2011	ND	227	113	200	8.14	

Surrogate: 1-Chlorooctane	*113 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*124 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TALON LPE
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:	04/11/2011	Sampling Date:	04/06/2011
Reported:	04/14/2011	Sampling Type:	Soil
Project Name:	STATE 647 AC 711 WATERFLOOD STATI	Sampling Condition:	Cool & Intact
Project Number:	701407.007.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 27 - T18S - R28E		

Sample ID: S - 2 S SIDE WALL EXC (H100719-02)

BTEX 8260B mg/kg **Analyzed By: CMS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2011	ND	1.82	91.1	2.00	1.20	
Toluene*	<0.050	0.050	04/12/2011	ND	1.90	95.1	2.00	1.70	
Ethylbenzene*	<0.050	0.050	04/12/2011	ND	1.85	92.3	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/12/2011	ND	5.72	95.4	6.00	1.96	

Surrogate: Dibromofluoromethane	*74.0 %*	*80-120*
Surrogate: Toluene-d8	*93.1 %*	*80-120*
Surrogate: 4-Bromofluorobenzene	*97.0 %*	*80-120*

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	04/11/2011	ND	416	104	400	0.00	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/12/2011	ND	223	111	200	3.99	
DRO >C10-C28	<10.0	10.0	04/12/2011	ND	227	113	200	8.14	

Surrogate: 1-Chlorooctane	*125 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*141 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TALON LPE
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:	04/11/2011	Sampling Date:	04/06/2011
Reported:	04/14/2011	Sampling Type:	Soil
Project Name:	STATE 647 AC 711 WATERFLOOD STATI	Sampling Condition:	Cool & Intact
Project Number:	701407.007.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 27 - T18S - R28E		

Sample ID: S - 3 N SIDE WALL EXC (H100719-03)

BTEX 8260B mg/kg **Analyzed By: CMS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/13/2011	ND	1.82	91.1	2.00	1.20	
Toluene*	<0.050	0.050	04/13/2011	ND	1.90	95.1	2.00	1.70	
Ethylbenzene*	<0.050	0.050	04/13/2011	ND	1.85	92.3	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/13/2011	ND	5.72	95.4	6.00	1.96	

Surrogate: Dibromofluoromethane	*76.5 %*	*80-120*
Surrogate: Toluene-d8	*93.2 %*	*80-120*
Surrogate: 4-Bromofluorobenzene	*83.6 %*	*80-120*

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1770**	16.0	04/11/2011	ND	416	104	400	0.00	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/12/2011	ND	223	111	200	3.99	
DRO >C10-C28	<10.0	10.0	04/12/2011	ND	227	113	200	8.14	

Surrogate: 1-Chlorooctane	*105 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*110 %*	*70-130*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TALON LPE
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:	04/11/2011	Sampling Date:	04/06/2011
Reported:	04/14/2011	Sampling Type:	Soil
Project Name:	STATE 647 AC 711 WATERFLOOD STATI	Sampling Condition:	Cool & Intact
Project Number:	701407.007.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 27 - T18S - R28E		

Sample ID: S - 4 W SIDE WALL EXC (H100719-04)

BTEX 8260B mg/kg **Analyzed By: CMS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2011	ND	1.82	91.1	2.00	1.20	
Toluene*	<0.050	0.050	04/12/2011	ND	1.90	95.1	2.00	1.70	
Ethylbenzene*	<0.050	0.050	04/12/2011	ND	1.85	92.3	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/12/2011	ND	5.72	95.4	6.00	1.96	

Surrogate: Dibromofluoromethane	*74.7 %*	*80-120*
Surrogate: Toluene-d8	*94.2 %*	*80-120*
Surrogate: 4-Bromofluorobenzene	*89.7 %*	*80-120*

Chloride, SM4500Cl-B mg/kg **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**432**	16.0	04/11/2011	ND	416	104	400	0.00	

TPH 8015M mg/kg **Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/12/2011	ND	223	111	200	3.99	
DRO >C10-C28	<10.0	10.0	04/12/2011	ND	227	113	200	8.14	

Surrogate: 1-Chlorooctane	*131 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*131 %*	*70-130*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TALON LPE
MIKE STUBBLEFIELD
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:	04/11/2011	Sampling Date:	04/06/2011
Reported:	04/14/2011	Sampling Type:	Soil
Project Name:	STATE 647 AC 711 WATERFLOOD STATI	Sampling Condition:	Cool & Intact
Project Number:	701407.007.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 27 - T18S - R28E		

Sample ID: S - 5 E SIDE WALL EXC (H100719-05)

BTEX 8260B mg/kg Analyzed By: CMS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/12/2011	ND	1.82	91.1	2.00	1.20	
Toluene*	<0.050	0.050	04/12/2011	ND	1.90	95.1	2.00	1.70	
Ethylbenzene*	<0.050	0.050	04/12/2011	ND	1.85	92.3	2.00	1.89	
Total Xylenes*	<0.150	0.150	04/12/2011	ND	5.72	95.4	6.00	1.96	

Surrogate: Dibromofluoromethane	*73.4 %*	*80-120*
Surrogate: Toluene-d8	*93.3 %*	*80-120*
Surrogate: 4-Bromofluorobenzene	*80.6 %*	*80-120*

Chloride, SM4500Cl-B mg/kg Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2960**	16.0	04/11/2011	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: AB

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/12/2011	ND	223	111	200	3.99	
DRO >C10-C28	**55.8**	10.0	04/12/2011	ND	227	113	200	8.14	

Surrogate: 1-Chlorooctane	*115 %*	*70-130*
Surrogate: 1-Chlorooctadecane	*113 %*	*70-130*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

Z-01	One or more surrogates above historical limits.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	Talon/LPE	BILL TO	
Project Manager:	mike Stubblefield	P.O. #:	
Address:	408 W. Texas Ave.	Company:	Talon/LPE
City:	Artesia State: NM Zip: 88210	Attn:	
Phone #:	575-441-7285 Fax #: 575-746-8768	Address:	
Project #:	701407.007.01 Project Owner: Quantum Resources	City:	
Project Name:	State 647 AC 211 Waterflood Station Release	State:	Zip:
Project Location:	Sec. 27-T18S-R28E	Phone #:	
Sampler Name:	mike Stubblefield	Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	8015 M	8021 B	Total Chlorides
H16719-1	S-1 Bottom excavated area	C				✓					✓		4/6/2011	9:25 A	✓	✓	✓
-2	S-2 Southside wall excavation	C				✓					✓		4/6/2011	9:33 A	✓	✓	✓
-3	S-3 Northside wall excavation	C				✓					✓		4/6/2011	9:43 A	✓	✓	✓
-4	S-4 Westside wall excavation	C				✓					✓		4/6/2011	9:54 A	✓	✓	✓
-5	S-5 Eastside wall excavation	C				✓					✓		4/6/2011	10:02 A	✓	✓	✓

Relinquished By:	Date: 4/6/2011 Time: 4:00 PM	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 4/7/11 Time: 08:00A	Received By: Jodi Henson	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	REMARKS:

5°C

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

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APPENDIX III

C-141 FINAL

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report X Final Report

Name of Company Quantum Resources Management, LLC	Contact Garrett Newton
Address 1905 West Sears Ave., Artesia, New Mexico 88210	Telephone No. 575-513-0230
Facility Name State 647 AC 711 Water Flood Station #86	Facility Type WIW

Surface Owner	Mineral Owner	Lease No.API # 30-015-02056

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	27	18S	28E	990'	South	330'	West	EDDY

Latitude 32.71420 **Longitude** -104.17128

NATURE OF RELEASE

Type of Release Produced Waters	Volume of Release 25-30 bbls	Volume Recovered 20
Source of Release Flow line	Date and Hour of Occurrence 12/06/2010 AM	Date and Hour of Discovery 12/06/2010 AM
Was Immediate Notice Given? X Yes ☐ No Not Required	If YES, To Whom? NMOCD/Mike Bratcher	
By Whom?	Date and Hour 12/06/2010 am	
Was a Watercourse Reached? ☐ Yes X No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The flow line at the State 647 AC 711 Water Flood Station ruptured. The flow line was taken out of service and then repaired. A vacuum truck was brought to the site and 20 bbls of produced water was recovered.

Describe Area Affected and Cleanup Action Taken.*
The affected area was one hundred eleven feet (111') long by one hundred fifty-five feet (155') wide. Talon/LPE excavated the saturated soil from the impacted area to a depth of four feet (4') and transported to and NMOCD approved Solid Waste disposal facility. Talon/LPE backfilled the area with soil to match the surrounding terrain and the area seeded with an approved seed mixture.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION
Printed Name: Garrett Newton	Approved by District Supervisor:
Title: Field Supervisor	Approval Date: / Expiration Date:
E-mail Address: gnewton@pvtnetworks.net	Conditions of Approval: / Attached ☐
Date: 5/18/2011 Phone: 575-513-0230	

* Attach Additional Sheets If Necessary